

## REMARKS

I. Status of the Application

Claims 1-20 are pending in this application. In the June 30, 2004 office action, the Examiner:

A. Rejected claim 1-12 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite;

B. Rejected claim 1-7, 11 and 13-20 under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 00/54237 to Graviton, Inc. (hereinafter “Graviton”); and

C. Rejected claim 8-10 and 12 under 35 U.S.C. § 103(a) as allegedly being obvious over Graviton.

In this response, applicant has amended claims 1 and 2 to clarify the claimed subject matter. Applicant has further canceled claims 3, 4 and 13-20 without prejudice and added new claims 21-36. Applicant respectfully traverses the rejections of claims 1, 2 and 5-12 in view of the foregoing amendments and the following remarks.

II. The Indefiniteness Rejection is Moot

The Examiner has rejected claims 1-12 as allegedly being indefinite. In particular, the Examiner rejected claim 1, alleging that there is:

no structural relationship between the sensor/processing circuit and ‘the devices’ of claim 1. To remedy this, in claim 1, line 8, ‘process value’ should be changed to ‘the process value’ and ‘one or more sensors’ should be change to ‘the one or more sensors’

(Office Action at p.2). In this response, claim 1 has been amended to address the indefiniteness allegation. However, claim 1 has been amended to move the general discussion

of the building automation system to the preamble of the claim in order to clarify the nature of the various elements. Thus, claim 1 no longer requires a structural relationship between the one or more devices and the sensor/processing circuit, except that the sensor/processing circuit operates within a building automation system having one or more devices as recited.

In view of the foregoing amendments, it is therefore respectfully submitted that the indefiniteness rejection is moot and should be withdrawn.

### III. The Rejection of Claim 1 is in Error

In the June 30, 2004 office action, the Examiner rejected claim 1 as allegedly being anticipated by Graviton. Claim 1 has been amended to include a limitation directed to the processing circuit being operable to generating a control output. Claim 1 as amended is therefore similar to claim 4 as originally filed. Claim 4 also stands rejected as allegedly being anticipated by Graviton. As will be discussed below, Graviton fails to teach or disclose each and every element of claim 1 as amended.

#### A. The Present Invention

Claim 1, as amended, is directed to an apparatus for use in a building automation system. The building automation system includes one or more devices that are operable to generate control outputs based on set point information and process value information from one or more sensors. The building automation system further includes one or more actuators operable to perform an operation responsive to at least some of the control outputs. Such building systems are generally known. The apparatus according to claim 1 includes at least one microelectromechanical (MEMs) sensor device operable to generate a process value and a

processing circuit. The processing circuit is operable convert the process value to an output digital signal that is configured to be communicated to another element of the building automation system. The at least one MEMs sensor device and the processing circuit are integrated onto a first substrate. The processing circuit is further operable to generate a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device. The output digital signal is representative of the first control output.

B. Graviton

Graviton teaches various systems and architectures for the using remotely spaced sensors. The sensors may include MEMs units, and may include an incorporated processing circuit.

C. Graviton Does Not Teach Generating a Control Output at the Sensor

Graviton does not teach a processing circuit, which is integrated onto the same substrate as a MEMS sensor, that further generates a control output based on the MEMS sensor or process value and a set point. Thus, Graviton does not anticipate claim 1.

The only sensor module that appears to integrate a MEMS sensor and a processing circuit is the sensor assembly 50 of Fig. 4. Graviton has been closely reviewed and it has been determined that Graviton does not appear to teach that the processor 60 of Fig. 4 receives a set point value, nor calculates a control output for use by an actuator. Instead, the node 70 appears to perform the control algorithms for the actuator 90 based on information from the sensor 50. (Graviton at p.17, lines 2-9). The processor 72 at the node 70 is *not*

integrated onto the same substrate as the MEMS sensor 52 of the sensor assembly 50.  
(Graviton at Fig. 4).

Because Graviton fails to teach or suggest a processing circuit that is integrated with a MEMS sensor and generates a control output based on set point information, Graviton fails to teach or disclose each and every element of claim 1. It is therefore respectfully submitted that the anticipation rejection of claim 1 is in error and should be withdrawn.

IV. Claims 2, 3 and 7-12

Claims 2, 3 and 7-12 all stand rejected as anticipated by or obvious over Graviton. Claims 2, 3 and 7-12 all depend from and incorporate all of the limitations of claim 1. As discussed above, Graviton fails to teach or suggest a processing circuit that is integrated with a MEMS sensor and generates a control output based on set point information. Accordingly, for at least the same reasons as those discussed above in connection with claim 1, it is respectfully submitted that the rejections of claims 2, 3 and 7-12 are in error and should be withdrawn.

V. New Claims 21-25

New claim 21 is similar to claim 6 as originally filed. Claim 6 includes a limitation directed to a battery. It does not appear that Graviton teaches an apparatus that includes a processing circuit and a MEMS sensor integrated onto a first substrate, and that further includes a battery coupled to the first substrate. Moreover, it does not appear that the Examiner has specifically alleged that Graviton teaches a battery at all. (See Office Action at p.3).

While the Examiner does state in the rejection of claim 8 that it would have been obvious to use a lithium ion battery, that obviousness allegation presupposes that Graviton teaches the use of a battery in an integrated sensor module. (See *id.* At p.4). Because Graviton does not teach the use of a battery in the integrated sensor module, the premise for the rejection of claim 8 is in error.

Claims 22-25 depend from and incorporate all of the limitations of claim 21. Accordingly, claims 22-25 are patentable over the prior art for at least the same reasons.

#### VI. New Claims 26-36

New claim 26 is similar to claim 12 as originally filed, except that claim 26 includes a limitation directed to a more general non-volatile programmable memory, and not specifically an EEPROM, as per claim 12. Graviton does not teach an apparatus that includes a processing circuit and a MEMS sensor integrated onto a first substrate, further including a non-volatile programmable memory.

In the Office Action, the Examiner alleged that it would have been obvious to modify the Graviton sensor to include an EEPROM because “such devices are well known in the art and have well known advantages”. It is respectfully submitted that the Examiner has not set forth a *prima facie* case of obviousness.

In particular, many, if not most, inventions are combinations of previously known elements. The fact that EEPROMs are well known in the art and have well known advantages does not, without more, provide a legally sufficient motivation or suggestion to replace the ROM and/or RAM devices of Graviton with EEPROMs. There is no teaching or suggestion in the prior art that the sensor module of Graviton would benefit from the “well known

advantages” of EEPROMs. There is no teaching or suggestion in the prior art as to whether any such advantages would be applicable to the sensor module in Graviton.

To the extent that the Examiner is alleging that an EEPROM has well known advantages over a ROM, then again it is not clear what those advantages are, much less whether the prior art fairly suggests that the device in Graviton would benefit from any such advantages. Admittedly, an EEPROM provides a memory that is non-volatile and thus is similar to a ROM in this respect, but the devices are otherwise quite different, each having specific advantages and disadvantages with respect to the other. There is no teaching or suggestion in the art that the advantages of using an EEPROM would be a suitable or desirable enough to replace the ROM in the sensor module 50 of Fig. 4 of Graviton.

For at least this reason, it is respectfully submitted that new claim 26 is allowable over the prior art.

Claims 27-36 depend from and incorporate all of the limitations of claim 26. Accordingly, claims 27-36 are patentable over the prior art for at least the same reasons.

VII. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is, therefore, respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'H.C. Moore', followed by a horizontal line.

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